

AUG 6 1963

DEWEY LIBRARY

ALCO ...

... ..

...

...

... ..

... ..

...

... of how in fact investment decisions are made.

Knowledge may not be adequate unless the assumption that the decision-making process itself will not be altered as a result of the fiscal change is correct. In fact, however, there is very little available which can be regarded as a reasonable and general model of investment behavior. Many studies of business investment decisions have been made but most of these quite naturally tend to focus around particular aspects of the decision-making process and in particular kinds of problems associated with making investment decisions. Thus there is evidence about some very systematic or systematic aspects of the administrative aspects of capital budgeting, or methods of capital budgeting used, or the treatment of uncertainty, and expectations and so on, but not in the form of a general model.⁸

Thus when the question is asked, "What is the effect of a fiscal change on investment decisions?" the answer is that the effect is likely to be different for different kinds of investment decisions, and the effect is likely to be different for different kinds of firms, and the effect is likely to be different for different kinds of industries, and the effect is likely to be different for different kinds of countries, and the effect is likely to be different for different kinds of time periods, and the effect is likely to be different for different kinds of reasons.

⁸ For a review of the literature on investment decisions, see J. R. H. Coatsworth, "Investment Decisions: A Review of the Literature," *Journal of Applied Corporate Finance*, Vol. 1, No. 4, (Fall 1989), pp. 3-14. For a review of the literature on capital budgeting, see J. R. H. Coatsworth, "Capital Budgeting: A Review of the Literature," *Journal of Applied Corporate Finance*, Vol. 1, No. 4, (Fall 1989), pp. 15-24. For a review of the literature on the treatment of uncertainty in investment decisions, see J. R. H. Coatsworth, "Uncertainty in Investment Decisions: A Review of the Literature," *Journal of Applied Corporate Finance*, Vol. 1, No. 4, (Fall 1989), pp. 25-34. For a review of the literature on expectations in investment decisions, see J. R. H. Coatsworth, "Expectations in Investment Decisions: A Review of the Literature," *Journal of Applied Corporate Finance*, Vol. 1, No. 4, (Fall 1989), pp. 35-44.

or "cost" of capitalizing expenses are... if...
in its calculations might react quite strongly to income...
not through a change in the investment's payback period, or rate...
or corresponding measures of investment worth but rather through the...
in the qualitative components of the decision which do react to the...
in the tax-base. Even when fiscal changes are introduced the exposure...
of their effect on investment decisions is still very problematical and
difficult to generalize.

These difficulties are well illustrated in the case of the...
last credit. / Wall Street Journal survey⁵ of over eighty-eight companies
found only one which thought the credit it would have assigned...
on major expansion programs. Thirty-eight of the companies surveyed...
that "the credit would at most cause them to take a second look at...
projects they had rejected, or start early on projects they would...
have begun anyway." Twenty of the companies claimed "the new credit...
changes their capital spending plans at all."

Additional surveys by the Wall Street Journal were...
latest indicates "the new law... credit of... 1969...

⁵ Ibid., p. 33-34. See also "The Federal Reserve's Investment Decision-Making...
Highway Program," Public Finance 22 (March/April 1964), p. 33-34.

⁶ The Wall Street Journal's Wall Street Journal survey...
of... 1969...

on the one hand, and the effect of the credit market on the other, which follows the trend of the credit market in the quantitative component of investment decisions is analyzed. The and perhaps dominant, influences of the credit made via other channels investment decision are ignored.

The author starts with the effect of the credit market on the rate-of-interest, and then proceeds to the following conclusions regarding his approach and the results of his calculations; concluding the discussion of some of his reservations and, finally, concluding the study.

The general problem is to find the way in which the credit market changes as a result of the changing the investment market. The effect of the credit market on the investment market is analyzed with the aid of the. The implications of the credit market on the investment market are analyzed with the aid of the. The implications of the credit market on the investment market are analyzed with the aid of the.

3. These figures are based on the assumption that the credit market is a perfect market, and that the credit market is a perfect market, and that the credit market is a perfect market.

Table 1 shows the no-credit case. The post-investment credit rate of return (i) is the post-investment credit rate of return. The impact of the credit is for assets with lives of eight years. The value of $H = 6$ is a row of maxima. Typical maximum changes are:

If $i = 10\%$ the minimum value of s is 11.7%,

If $i = 20\%$ the minimum value of s is 17.01%,

If $i = 25\%$ the minimum value of s is 27.1%.

Hence relative changes are of the order of 1%, 5.3% and 10.3%. Thus the relative impact of the investment credit decreases not only with the asset age (beyond eight years) but also with i ; s falls rapidly as i increases but s decreases very slowly after $i = 15\%$ has also shifted to one-credit or no-credit. The credit makes the less profitable assets look relatively more profitable.

It thus seems reasonable to suppose that the investment credit will increase the rate of return on capital and the rate of investment.

To begin to check this the present credit schedule is taken from the investment in the afternoon of 1954. The rate of return on capital is 10% and the marginal (new) rate of return is 10% and the rate of investment is 10%.

Table 2 shows the effect of the credit on the rate of return on capital. The rate of return on capital is 10% and the rate of investment is 10%.

Table 3 shows the effect of the credit on the rate of return on capital. The rate of return on capital is 10% and the rate of investment is 10%.

Table 4 shows the effect of the credit on the rate of return on capital. The rate of return on capital is 10% and the rate of investment is 10%.

Table 5 shows the effect of the credit on the rate of return on capital. The rate of return on capital is 10% and the rate of investment is 10%.

with the cost-of-capital) could in practice be as large as 10% or more. The effect of comparing s with the cost-of-capital, especially if s is negative, is small when both s and the cost-of-capital are considered. In brief the investment credit, in so far as it affects rate-of-return computations, does not seem to be particularly influential.

It is interesting to consider whether these conclusions are at all sensitive to the assumptions made by Terborgh. The restrictions on the time shape of the earnings stream $R(t)$, is probably the most interesting one to examine. Several projects for which $R(t)$ varied sharply from the assumption of linearly decreasing flows were constructed and the actual rates-of-return for them with and without the application of the investment credit computed. The relevant data are summarized in Table 2 and the results in Table 3. The cash flows of Table 2 are pretaxed magnitudes. Actually, for simplicity of calculation, they are pretaxed cash flows. Since the objective here is to consider flows which deviate from the assumption specified by equation (1) it makes no difference whether this linearity is violated in pre-tax flows $R(t)$ or in terms such as $(1-T)R(t) + 2TC(n-t+1)/[n(n+1)]$, the after-tax cash flow in period t of the pre-tax earnings $R(t)$, assuming SOYD depreciation. A brief glance at the time shape of the cash flows of these projects indicates considerable variation from linearity.

Table 3 shows three different rates-of-return computed from the basic data of Table 2. First the actual rate-of-return on the projects (as specified in Table 2) and without applying the investment credit (i). Three of these projects have been standardized at the rate employed by Terborgh, 10%; project D, however, has a 15% rate-of-return. The

2000

3035

TABLE 3
RATE OF RETURN

PROJECT*	LIFE (n)	RATE OF RETURN		
		WITHOUT CREDIT (1)	WITH CREDIT	
			ACTUAL (b)	TABULATED (c)
A	2	10.00	11.80	11.70
B	3	10.00	11.23	11.70
C	4	10.00	10.75	10.70
D	5	10.00	10.68	10.50

*See description of projects Table 2.

application of the investment credit, of course, to each of the four projects gives an increased rate-of-return, s' . Considerable relative variation between s' and i exists; for example, a 13% increase for A, and a 7-1/2% increase for C. Finally, the rate-of-return s is listed (from Table 1) for each project. As noted above a value for s can be assigned to each project if the life (n) and the pre-credit rate-of-return (i) are known and the cash flow is assumed to decrease linearly with time.

Despite the considerable deviation from the linearity assumption there is considerable agreement between the values for s and s' . Thus the apparently limiting assumption built into Terborgh's formulae does not seem to be too important. So long as the pre-credit rate-of-return (i) is known the actual rate with the credit is at most only one or two percentage points above the pre-credit rate and very little different from the theoretical values of the post-credit rate with the linearity assumption included. While s and s' are of necessity greater than i , s' may be greater or smaller than s depending on the nature of the deviation of the flows from the linear assumption.

INVESTMENT CREDIT PROVISIONS

The details concerning the method of calculating the investment credit and the conditions in which it is applicable are not particularly complicated. Section 46 of the Revenue Act of 1962 is the basic source which the interested reader should consult. A useful summary of the various situations for the introduction of the investment credit is provided by Secretary of the Treasury Douglas Dillon.¹⁵

The essential provisions of the investment credit are that the credit varies with the life of the investment and that the amount of the credit is decreased if the asset's depreciable value. The purchase of a \$100 piece of equipment which has a 10-year life yields a tax credit of \$10 which is deducted from the corporation's tax liability. If the asset is salvaged before the credit value has been reduced by this depreciation, the \$10 of the investment credit must be a credit against the payment of taxes from the "unexpired" part of the credit. If the asset is sold or disposed of before the full amount of depreciation has been taken, the credit is reduced accordingly. If the asset is sold or disposed of after the full amount of depreciation has been taken, the credit is not reduced. The credit is not reduced if the asset is sold or disposed of after the full amount of depreciation has been taken. The credit is not reduced if the asset is sold or disposed of after the full amount of depreciation has been taken.

¹⁵ Douglas Dillon, "Investment Credit," *Public Finance*, Vol. 1, No. 1, pp. 1-10. The author is grateful to the author for his contribution to the understanding of the investment credit.

17 '70

DEC 14 '70
1178

DEC 22 '70

1179

JAN 11 '75

